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"Flora" and digital imaging

John Latimer

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MFA Thesis

John Latimer

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Committee members:

Jeff Weiss

Judy Levy

Elliott Rubenstein

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Rochester Institute of Technology

College of Imaging Arts

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Part One:

Before I explore my thesis entitled *Flora*, I want to discuss how we define art and the environment that produces an art culture. Is the reason for accepting an object as art because the object has an intrinsic quality that is recognized as art or because of social context. To me this seems to be clear although I understand that others might disagree. An object is defined as art because a group accepts that it fits into their definition of art. Thus art is a relational property to the group viewing the object.

First let's assume that there is an object that is made by an individual who wants to claim that it is art. Does the mere creation of an object for the purpose of being art make it so? I do not believe so. Art is as I see it, is defined by culture. The culture that contemplates an object then decides whether it is art by values that this culture prescribes to the word art. This does not necessarily mean that an object is not art simply because one culture rejects it as art. There are, obviously, multitudes of cultures with prescribed values of art. Different cultures may accept an object as art, but for different reasons. Of course one member of a culture may disagree with another member

of the same culture as to whether an object is art. Is then the object both art and not art? I would say not, instead it would seem that there is perhaps a sub-cultural difference between the two that explains the difference of acceptance. The other possibility is that an individual could belong to two or more distinct cultural groups in relationship to the acceptance of art. So while two individuals are both members of one group they are also potentially separately members of other groups. In this way one individual accepts the object as art while the other may not accept the object as art even though they share a common value to the definition of art, it is not an exclusive definition. This may seem to be an argument then that says the individual is capable of defining the value of art and thus the maker of the object could then declare the object as art. I would hold that to have artistic value the object needs to be accepted by more than one individual otherwise all objects could be declared as art, making the term meaningless.

There remains the necessity of defining one's own art in the context of ones culture. I believe that cultural groups define art in ways that have particular meaning to them. So one group might find that art is defined by the socio-cultural value of an object, lets say the

ceremonial mask. A different may prescribe that art must be a sensual experience that raises the spirit of the viewer. There is certainly also a category of art that is defined by its cognitive value, one where the art is used to raise a question or awareness. Amongst these there are certain cross values that form the myriad of art cultures that exist today. I must apply here that I do not believe that art has the capacity to answer questions, it is not in the nature of art to do so. Art is not empirical and laws of science do not apply in the sense of deducing an answer to a hypothesis. This should not be taken to mean the art does not use or can not be based upon science, certainly there is art that reflects scientific thought.

I do feel that my art is sensual as well as cognitive. There are times when I wonder if either is valid in and of itself. I wonder if an artwork that is made for visual pleasure alone can be valid as art, but also can an experience of art be purely cognitive in value? I find this question to be most interesting, however it is not my only question in the formation of art. There is a more primary focus that comes first for me. Is art a product of inspiration or process? I believe art certainly is made based on an inspired moment, finding a flow of energy. An artist can also determine in advance that an artwork is

going to address a topic and study the issue at hand in order to come up with the elements of the artwork. It seems that most often sensual art is made by intuitive process, while cognitive art is a process of study and formation that is less about intuitive energy and more about intellectual investigation.

I feel that art is often taken to an arena that is beyond what is effective. The problem that I find in much art that is based on conveying cognitive ideas is that we as artist sometimes press too hard and destroy the mysterious element that engages the viewer. This is key to producing the sense of wonderment that the viewer needs to take away from the piece in order for the work to truly have the viewer contemplate the result of the experience. If art is pushed so far as to spell out the answer then there is no question left for the viewer to contemplate. This is perhaps obvious as a conclusion, but it seems that I feel this way when presented with much of the art that I see in this category. Certainly because a work of art is cognitive does not mean that it has to lack sensual appeal. Much post-modern work leaves the sensual aside to focus on the cognitive aspect. This is true of my last "walk through" show that dealt with observer/observed power relations. The installation had little visual

appeal but was built for the function of heightening the experience of control and manipulation.

Let's discuss the aspect of the sensual in art. To experience an artwork that appeals to ones senses is to find a moment of peace, a transcendental occasion. When confronted by beauty we have this type of experience. When I use the word beauty, the reader should not assume an association of glamorous or pretty like we have developed through advertising. I am using the word as defined by Merriam-Webster as "A quality in a thing that gives pleasure to the senses or pleasurably exalts the mind or spirit".

This is surely a definition that we can welcome in our lives. This experience of beauty is the sort that gives meaning to life. To find a moment when one is stopped by an experience and lifted up to an awareness that is beyond the ordinary, if only for an instant is valuable to our spirit. Sometimes the experience of the beautiful is revealed in unexpected ways. At first, I may see something that is not to my liking, but with some contemplation I become aware of some facet that suddenly lifts me beyond my initial reaction. This method of arriving at "beauty" is perhaps most meaningful, because

one has to let go of some barrier to see that which is beautiful in the object. This is precisely the experience I had when really first seeing a Rothko painting.

Beauty does not always have to be displayed in a straightforward sort of manner. While attempting to define beauty, we must keep in mind that it need not be a tangible, visual representation. Beauty can be an experience as well, such as when listening to music or in dance during a movement. The cognitive can also termed beautiful, the experience of the cognitive may bring on the experience of the beautiful. I find that most often the events and items I find to be beautiful are not at first noticeable. Perhaps initially I do not react as if they are beautiful because at first I am puzzled or perplexed by what it is that I am seeing or experiencing. Beauty has a sort of mystery that stops the viewer when first encountered. Beauty, unlike something that is pretty or glamorous, which heightens our awareness of the object, transforms and moves the viewer in a new direction than where he was before the experience. Certainly training in the arts provides a foundation for the basics of the visual experience but beauty itself is not a teachable or tangible.

This brings me then to the work that I have presented in my thesis, entitled *Flora*. I had thought, of several ideas for a series of images, however in the end one of circumstance became the basis for my thesis. As previously stated not all art is conceptual; the creation of art largely rests in intuitive action.

Flora came to be through circumstances that occurred at work. I happened to have a vase of flowers in the office and after periods of changing them I once noticed a set of sunflowers that had folded their top yellow petals over the black center. This itself was not beautiful. What I saw was. A sunflower dried up with an edge to what had been soft. It seemed to be a moment of time frozen in the crinkles of the leaves. I found myself inexplicably drawn to the image. I started to collect all the flowers that came into the office. I would bring them home as they started to die and wait for that process to go on until the flowers were dried up. I would then start to sort out those that were different to me. The process seemed raw with little arrangement and pre-thought. I am not sure exactly what the determining factors were, although shape and texture were at the beginning the traits that seemed to draw me. Later on, I found that I

was conscious of color as well. I had picked a dark cloth as the backdrop to the images and this I began to notice set off the color that existed in the flowers. In the end I had made many dozens of images and picked those that most expressed something to me. I was drawn to the play of space and color. The size of the prints and the evidence of small visual details that when made so large became primary to the eye before the whole image, were what visually held me in the work.

After living with the images for nearly a year now I am starting to sense another meaning, for me, beyond the initial appeal of shape, texture and color. I realize that beauty is paradoxical, the beauty is in the death of the flower. In addition, there is a new feeling: a representation of the loss of sexuality. The flower being the great archetypal symbol that it is of fertility. There is a connection to the loss of a sensual element that I have begun to feel encased in my work.

I had no intention of the work to mean anything other than what the shapes and color's presented to the viewer evoked. In the end this is the product of art, what the viewer makes of it. The artist has little or

no control over the audience of the work. A viewer can of course be drawn towards a conclusion or inspired through the skill of the artist to convey human emotion, visual interpretation, color science, social theory, etc. In this case the work has successfully both challenged and expanded my sensitivity towards beauty and the broader meaning of the work. At best this is also what I would wish from my audience in experiencing my work.

Part Two:

My beginnings in photography started with a very traditional mentor. I was grounded in the technical aspects of photography before I even thought of its use as an experimental media. I was drawn to alternative processing early in my training and learned a number of the processes, Platinum, Van Dyke brown, albumen, Cyanotype, Bichromate, Gold chloride, and others. In the process of this learning I found the step of negative enlargement to be the most frustrating of all. I came across an early reference to Dan Burkholders technique of digital negative generation using an imagesetter to produce a negative with a controlled density curve.

This is around the time of Photoshop version 2 being groundbreaking software. I played with the technique but was never able to implement its use due to my rather rural location not having a prepress house that would work with me to get the result correct. I was at the time working for a museum on a project of Platinum printing turn of the century negatives from China and had to meet a deadline. I did find the prospect interesting though of being able to control the creation of the image through the use of a computer. I never considered the idea of making a real print from the computer; the technology was just not there at the time.

A couple of years later I applied to RIT for graduate studies and found a much more up to date facility with the best toys of the time. I began to play with inkjet prints from early Epson's. I wanted to see what the possibilities of Photoshop were to me. I then started to see Iris prints and decided that the chemicals and acids of platinum printing had seen their last days for my work. I spent a great deal of time learning the techniques of Photoshop and investigating the methods of digital creation and output. While I was interested in the manipulatory capabilities of the computer I was more fascinated with the control of the process.

A summer job between my first and second year at RIT introduced me to Bruce Bennett, a local fine art documentary photographer. We talked on several occasions about printing and the difficulties of reproducing in the darkroom the same print with localized burning and or dodging twice much less twenty or thirty times for an edition of an image. I brought to his attention the control that digital printing had in this area, after a few conversations and showing him some prints we were looking at the possibilities of starting a digital lab. Bruce would fund the project and I was to run the operation. We looked into several types of printers and settled on the Iris. At the time it was without question the best source of digital fine art prints. At the end of my second year of studies I went to train myself as an Iris printmaker with Jon Cone, one of the leading makers of fine art Iris prints.

I returned from the training and set out on a year worth of personal tuning of the process. Being that Bruce was primarily interested in black and white prints and given my previous background in platinum we soon found that this was to be our specialized niche. While I did learn from Cone one way of achieving a neutral gray

print, I was not totally satisfied with the control of the method. In making a B/W inkjet print you run the trouble of the ink not maintaining the gray balance from the highlight to the shadows, quite often the prints will be greener on one end and magenta on the other end of the tonal range. To keep the hue of the gray tone even throughout the print is where the printmaker must apply what he knows about the printer, inks, and paper that are being used to make the print. It is a combination of all three elements that need to be tweaked to have the image produced the way you desire. A year of experimentation had lead me to a few ways of controlling the process for B/W prints but our color prints were not beyond those of other printmakers.

In making a color print the paper and ink combination are vital to the gamut of the end print. It does not matter how good a printmaker one is there is a limit to the available color range of the combination of paper and ink. A printmaker has to test and measure this range, then calibrate to the results. While color management offers a helping hand to the conversion of a RGB image file to CMYK there are minor adjustments that the printmaker need make to get the most out of his ink and paper combination. Typically the blues and reds are left a bit

flat by a color management profile. The most often problem is the blocking up of 3/4 tones along with a black point that is less that the maximum achievable by the paper and ink. Or you can run into a mottling of the black due to too much ink being present in the black point, the effect is that the paper can not evenly absorb or hold the ink that was applied.

I ran several paper and ink test combinations while trying to find a combination that would help me in making prints that were better than most being produced. After finding the combination that suited me I went into a series of tests to control the creation of the black point. I developed a set of steps for maintaining my 3/4 tone detail while giving the paper all the black it could handle for my final black point. This ability to give the maximum about of black while maintaining detail allows for prints with more contrast and vivid color saturation.

This then brings me to my images. Much of the effect of my images is due to the printing. I was very conscious of the printing process when developing the idea of the images as the process of shooting was taking place. I was shooing with a black background with

flowers that had dried up leaving the color pigments very brilliant. I was able to make the prints only because of the methods for controlling black that I had worked on. Since shooting a pure black is very difficult I worked to add density in the background and to even the value across the print. Learning to create selective color masks is essential to being able to control the print values of an image. Since very few images require only holistic adjustments, being able to create a selective mask is a skill that any digital oriented photographer should master. When concerned with printing adjustments the ability to select color separate from the image is most important to correcting many printing value problems. Selective color range is the most useful tool for this job in Photoshop. As with all selection tools a selective color range selection will need to be fine-tuned inside of the alpha channel mask that is attribuated to the corresponding adjustment layer. Another problem that arises is the amount of feathering that should be applied to a selection if any. There are times such as when dealing with selective sharpening that a feathered selection would not be beneficial. When using a selection in terms of a color or density adjustment then a feather of very small portions is needed to blend the transition of the affected area to that of the non-affected area. A common problem that I see in files from

digital artist is the use of too much feathering in a transition resulting in the distortion of the transitionally area. Being able to work with alpha masks in a smooth fashion allows a digital artist to make efficient use of the medium. I know many digital artist and the best amongst them have obviously mastered a method for masking. I say "a" method because there are many ways to accomplish the same effect in Photoshop and certainly my ways of working are only one. I think the point here though is that just as in traditional darkroom photography an artist must master a skill set to be able to produce an image that stands out from the ordinary. In many ways I find the digital darkroom to be more difficult that the silver. Digital is very precise and artifacts usually stand out in a digital print. In silver printing there is a degree of bleed of the light that helps to soften any errors in the process of printing and a little extra time or less in processing can also help to adjust a problem. In the digital realm of printing the effects are more acute when there is something off. Since we deal with a finite number of colors and degradation of image information every time we introduce an adjustment the digital print reacts more harshly than the analog.

Part Three:

I have mentioned that I worked in isolation for the most part while producing my images. I have though seen the work of many artists over the years and a few stand out to me in a vague sense. While I can not readily tell you who did what image there has been a trend of work mostly of older established photographers that I feel has drawn me in a direction within photography. I have always liked the abstract and the play of shape and texture. I do not think that I had seen a lot of work based on the flower. I had seen the work of Tom Baril only after having been well into my own project. Imogene Cunnigham's flowers I was familiar with but had not really studied the same is true of Mapplethorpe's flowers. Several people have pointed out the work of Blossfeldt whom I have since looked at but I feel the work has significant differences. Blossfeldt was interested in the study of the flower from the sense the botanical form for a study of metal working and certainly the subject of color was mute, it did not exist for him in photography. The only real connection is the flower as a subject. I feel there is a better connection to artists that have studied color, texture and light and the use of shape with negative space in the abstract. I am not certainly a photographic historian and so I can not list perhaps those who are most relevant to

my work visually. I can say that those who may have had an influence would be: Stieglitz's floras and staircases, Weston's sand dunes, White's and Callahan's close up work, and the textural work of Siskind.

In the end I have produced the work of Flora for myself and look to find other pathways to continue to create images. This may be a direct branch from this set of images or may be a completely new study. I feel that the production of imagery is a part of my self-growth and inner expression as is the case for all creative activities. Hopefully a part of society will recognize the work as having a greater expression for them and consider the images art.

A primer for digital printing.

To be able to get the most in a digital print the process has to start at the conception of the image. The artist must understand the limits of the workflow that are to be used in the production of the print. Having a clear understanding of this workflow will result in a working methodology that is smooth and less aggravating.

The first step is in the capture of the image for a photographer. This may be with film or digital and the difference is very important to the outcome of the print.

If the artist is using film then there is grain, similar to enlargements in a darkroom this will be evident in the digital print the larger the print is made. Most important is how will the film be scanned. Having access to the best equipment or paying a service lab to make a good initial file will make all the difference in the final print. The old adage is "junk in junk out". While the digital process can perform many manipulations it is nearly impossible to clean a low quality scan and make it better for printing. The type of film is also of importance, while technology is making improvements in the scanners it is still harder to scan a negative than a chrome for color work. The computer has to interpret negative color space to positive and work past the film base color as well when dealing with negative film. For black and white the largest concern is the presence of large film grain if this is unwanted in the final print.

For digital capture there is the concern of resolution and digital noise associated with cheaper cameras. The digital option though rids the artist of grain and color interpretation. A few simple tests will tell the

capabilities of the digital camera. Technology is quickly making digital more viable as a method for capture than ever before. Foveon's new x3® chip is a great example of cutting edge digital technology that will change the course of digital capture for future cameras. This chip design eliminates the moiré pattern that has plagued digital capture in the past.

Once the artist understands the limits of the source material for the file then the type of print needs to be determined. In actuality this should work in the opposite direction. The printing technology should help determine the capture technology, the more precise the printing technology the more precise the capture technology needs to be to take advantage of the printer.
Once the artist knows the type of printer to be used then if possible a calibration to the workstation monitor should be made.

Calibration between monitors and printers is very tricky. This process usually involves a change in the color mode of the image, for example from RGB to CMYK or for black and white from Grayscale to CMYK. This is the defining moment of aggravation for most of us. The reason is that such conversions are specific to the type of paper

and ink, even the batch of paper or ink can make a change in this conversion. To truly calibrate the artist must print a specific set of patterns from a calibration software package. This set of patterns would then be read by the calibration software and compared to a profile built for the monitor. The comparison then gives an accurate display of the color in the printers color space. This assumes that the artist has a hardware calibratable monitor. Software calibration of the monitor is less effective as it just keeps the monitor from displaying certain color ranges rather that physically adjusting the monitors guns to achieve color correctness as does hardware calibration. With all this said about color management it should still be used only as a reference to bring a system closer for the sake of adjustments during the preparation of the image for printing. Rarely will the result of color calibration match 100% with the printed result. The final process in a workflow of digital output will be knowledge of the printer's characteristics. By this I mean that the artist needs to know that the printer usually prints a bit lighter or perhaps goes a bit cyan in darker green tones etc. A good practice that I recommend for new digital artist is to print a reference sheet of color patches and densities. This will be a set of different colors at set densities for each combination of inks available. For example a row of 5% density cyan

with 12 steps of yellow from 0 to 100% then followed by 10% cyan and so on. Yes this might seem a bit tedious and use a large amount of paper but with careful documentation of the steps and combinations a quick color reference will be available to compare the prints result on an image to that of a monitor. Then a color that is less than desirable in the print can be referenced to this sheet to find the correct file densities to produce the desired color. This leads us to being able to selectively control color within the file. While some adjustments can be made on a holistic basis most will involve only sections of an image. The ability of the artist to make selections with a variety of tools is critical. Different needs will arise to select lets say a particular area of an image like a leaf on a tree while another correction may involve everything in the image with a particular shade and density of orange. For the leaf using the lasso tool would be the easiest method but very difficult for making the second selection. For color and density selection color range would be more useful. Once the selection method is determined amounts of feather should be determined. This will vary with the printer's precision and the papers ability to bleed the ink. Bleed will spread the ink on the paper, so the more bleed that occurs the less one needs to feather selections. Understanding bleed will also give the artist information

for determining sharpening. A common mistake is to over feather a selection to make it blend on the monitor. This is done because the monitor is more precise than a print in detail and shows more density separation due to being a transmissive light source. In practice this over compensation leads to blurs in the print where selections were performed.

When performing adjustments to color and density I find that three types of adjustment functions cover the majority of a printer's needs. Precise adjustments are better for control than more arbitrary ones. For example, contrast is better performed with Levels or in more difficult situations with Curves rather than using the Contrast slider. The reason for this is the control of Levels and Curves is more precise and allows us to maintain certain minimum and maximum points in the image whereas the Contrast slider shows no numbers in relation to the file data. The numerical data is of course very important when using the reference color patches described earlier and for general printing by the numbers workflow. Using this same reasoning then other color and density controls then need to be able to provide direct numerical information for the same purpose. Levels allow for control of broad changes to balance of color and density. By broad I mean that the change occurs throughout the color or density of the image.

The adjustment can be small numerically but the effect is applied in relation to the whole scale of the tone affected. Curves provide for a more subtle and localized approach to adjustments. Curves have the ability to lock in the 1/4 tones of a color while affecting the 3/4 tones. This isolation is critical when dealing with a hue shift inside of a gradation of one color. Typically Curve changes are more difficult to control than Levels because if an effect is not localized the change produced shifts the image greater in one area of density thus causing a loss of color balance in the rest of the image. The third adjustment method that is very useful for color tone adjustments is Selective Color with this we can isolated color tones and control adjustments to channel colors inside of that tone. For example we can select Blue and then have access to the cyan, magenta, yellow and black channels of ink inside of every thing that has a blue dominance in the image. When these three control methods are used in conjunction with a decent color calibration system and a working knowledge of printing by the numbers then an artist should be able to control most of the output that is produced.

Printing by the numbers is critical to understanding several aspects of the process of image output. For example, the artist must know at

what point of density will the ink first show on the paper, it may be 3% or 7%. Next the artist needs to know the density of ink required to make the difference between a highlight and a 1/4 tone then to a 1/2 tone etc. Lastly the artist has to know the limit of the paper to absorb ink. At a certain point every paper ceases to absorb more ink any further ink just sits on the surface and creates a mottled effect. To know this maximum level also determines at what density the 3/4 tone must exist in the file to maintain detail separation. This data would all be part of the color step sheets that I have suggested creating.

I will discuss very briefly the printing options that are available and focus on certain aspects of ink jet technology that artist need to be aware of. There are many different printing technologies available to artist from dye sublimation to LED and of course the most common ink jet. A limiting factor in both the dye sub and LED printing methods is the limited types of media available for printing. Specific papers must be manufactured for both types of printers, especially for the dye sub. LED printers can use most standard photographic papers but again this is limiting. Size is also a consideration for dye sub, there are very few large dye sub printers and the technology is

expensive. For LED printers size is less of a factor but there remains the need for traditional developing of the image after the LED exposure. Most artists will not have direct access to this technology. This leaves inkjet as a very affordable and versatile medium. The size of inkjet is growing every day while the expense is decreasing very fast for the printers. Inkjet also can accept a wide range of printing materials, many of which are not specific to the technology. For example it is very feasible to print to fabric or rice papers. The industry is making rapid advances in ink stability and developing many different types of specialty inks for black and white photographic output and other niches. There are two types of ink basically available for inkjet printers. The first is dye based ink and the second is pigment based. The dye based inks typically have a broader color gamut but tend to be less stable than pigment inks. There are several reasons though to lean towards the use of dye based inks. First the dyes can be much smaller that the pigment chunks allowing for a smaller drop technology resulting in the ability of dye based printers to physical have better resolution characteristics. Pigments inks also tend to metamerize. Metamerization is the effect of the ink reflecting light differently depending on the type of light that illuminates the print. This

becomes a very big problem when there is more than one source of light the effect is to have hue shifts within one color. Another factor is that the pigments do not absorb into the paper but rather sit on top, thus being more prone to physical damage of scraping off. I would warn that there are several coated papers for printing either using a gesso like coating or a clay based coating that are used by both dyes and pigments and this coating is another layer clinging to the surface that can flake away and remove image information as well. The dyes color gamut and increasingly improved life make it a good choice for printing.

When dealing with any printer though an artist may be limited by the interface that is provided by the manufacturer. Epson for example does not allow the user to have direct control of the color conversion on most of its printer so individual color channels can not be manipulated and adjusted accurately. To be able to print by the numbers an artist really needs this form of control. When a printer allows for straight CMYK input to the printer then a world of control opens up. Without this form of file input it is nearly impossible to control black and white tonality. With true CMYK input to the printer the artist has control over the curve values that allow for hue correction as density increases. Short of this control the best option

for black and white printing is the use of alternative ink sets that contain only black inks. The problem many artists will have with this is the lack of hue adjustment. These sets are usually only one hue and have no color for adjustment.

For artist to print in the digital world they need to understand the limits and possibilities of the equipment they wish to use. Through trials and repeated experiments a great deal of flexibility and control can be accomplished. The choice though needs to be explored and used just like any medium that the artist would learn.

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John Latimer
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